APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,962	06/01/2001	James M. Reuter	P01-3663	4878

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EXAMINER
NGUYEN, TRONG NHAN P

ART UNIT	PAPER NUMBER
2152	

DATE MAILED: 10/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/872,962	REUTER ET AL.
	Examiner	Art Unit	
	Jack P Nguyen	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _01 June 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-16_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-16_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _11/8/61_

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Claims 1-16 are being examined.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer <u>cannot</u> overcome a double patenting rejection based upon 35 U.S.C. 101.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected under 35 U.S.C. 101 as claiming the same

invention as that of claim 1 of copending Application No. 09/872970. This is a

provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claims 7-11 and 13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2, 3, 8-10, 12, 13, 16, 18-21, 23, 26, and 29 of copending Application No. 09/872970. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the copending application have all the limitations in the claims of the present application. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 1, 2, 7-11, 13, 15, 16 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the following: claims 1, 3, 4, 6, 15, 19, 21, and 25 of U.S. Patent No. 6,775,790; claim 1 and 5 of U.S. Patent No. 6,745,207; claims 1-4, 6, 7, 8, 11-14, 17, 21, and 23 of Patent 6,772,231; and claims 2, 3, 4, 10-12, and 15 of Patent 6,718,404. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the patent have all the limitations in the claim of the present application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau et al, 6,260,120 (Blumenau hereafter).

As per claim 1, Blumenau teaches a virtual storage system (20, fig. 1, col. 24, lines 15-16) for mapping virtual storage segments of differing sizes to storage locations (28, 29, fig. 1, col. 9, lines 15-19; storage volumes are mirrored with each other), comprising: a host controller (61, fig. 4; host controller is functionally equivalent to an agent) coupled to the host (22, fig. 4), the host controller storing a first table (fig. 30, col. 30, lines 53-55), the table having entries to map the virtual storage segments to the storage locations (col. 32, lines 43-45); and a storage controller (27, fig. 4; storage controller is a component of a cache storage subsystem) coupled to the agent, the storage controller having non-volatile memory for storing a second table (80, fig. 4; fig. 5; col. 14, lines 27-31), the host controller receives mapping updates from storage controller (col. 25, lines 1-7) and uses the storage controller's mapping table when its local copy is unavailable during an input/output (I/O) operation, the host accesses one of the entries in the first table to determine one of the storage locations (col. 32, lines 45-47). Blumenau does not explicitly teach the host controller having volatile memory for storing first table. However, it is well known in the art use volatile memory (RAM) in computing devices to store temporary data. It would have been obvious to one of ordinary skill in the art to use volatile memory to ensure old, residual data in memory is erased and refreshed with new, updated data when the computing device first powered

on.

As per claims 3 and 6, Blumenau teaches the second table further includes a bitmap that having entries that correspond to blocks of data stored within the alternate storage location (fig. 8, col. 17, lines 3-8). Blumenau does not specifically teach the bitmap designating blocks at the alternative storage location to use for the I/O operation. However, it is well known in the art to use second or backup location when the first location is unavailable or busy. Hence, it would have been obvious to one of ordinary skill in the art to be motivated to perform I/O functions at a second location while the first location is busy processing data in order not to interfere with the function being performed or have to wait for the process to finish.

Claim 7 is rejected for similar reasons as claims 1 and 3 addressed above. Blumenau further teaches a plurality of variables indicating states of the entry (283, fig. 23, col. 26, lines 36-40); an offset for the entry, wherein the offset includes a logic unit number identifier (fig. 25) and a block identifier (fig. 34).

Claims 2, 4, 5, 8 and 9 are rejected for same reasons as claim 1 addressed above.

As per claims 10 and 11, Blumenau teaches the states include a no-write (col. 19, lines 15-21) and error (187, fig. 17) states.

As per claim 12, it is rejected for similar reasons as claims 1, 3, and 7 addressed above. Blumenau further teaches identifying portions of the virtual storage segment to be effected during the I/O operation (269, fig. 23, col. 26, lines 28-34; I/O includes

read/write); storing a record of the identified portions at a second table and not at the first table (246, fig. 21; fig. 23; second table is stored in storage controller). Blumenau does not explicitly teach writing to a second storage location associated with the identified portions by making I/O operations at first location invalid. As previously stated in claim 3 above, it would have been obvious to one of ordinary skill in the art to be motivated to write data to the second location while the first location is busy so it would not interfere with any processing that is taken place at the first location or one would not to have to wait for the process at the first location to finish before writing new data.

Claim 13 is rejected for similar reasons as claim 12 above.

As per claim 14, Blumenau does not explicitly teach a subsequent read operation occur at portions of the first storage location not included in the identified portions and the portions of the second storage location associated with the identified portions. It is known in the art to permit access to new portions of second storage area where data that has been updated and restrict access to the portions of first storage area data where the old, obsolete data is stored. Hence, it would have been obvious to one of ordinary skill in the art to perform this function because it would prevent users from accessing old, inaccurate data of the first storage area and only have access to new, updated data in the second storage location.

Claims 15-16 are rejected on same basis as claim 1 addressed above. Blumenau further teaches each host has its own host controller that stores a copy of mapping table as addressed in claim 1 (fig. 4).

Conclusion

1.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

- DeKoning, 6,671,776; Hoese et al, 5,941,972; Sanada et al, 6,742,090 ;

  Shepherd, 6,529,995 ; Ito et al, 6,684,209 ; Arai et al, 5,404,478 ; O'Brien et al,

  6,038,639 ; Burton et al, 6,618,798 ; Hubis et al, 6,343,324 ; Lagueux et al,

  6,538,669 ; Milillo et al, 6,421,767 ; Reuter et al, 6,775,790 ; Reuter et al,

  6,745,207 ; Reuter et al, 6,772,321 ; Reuter et al, 6,718,404

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jack P Nguyen whose telephone number is (703) 605-

4299. The examiner can normally be reached on M-F 8:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). jpn

Dung C. Dinh
Primary Examiner